
DATE: March 5, 2014

FROM: Cloverland Electric Cooperative & Lighthouse.Net

TO: Federal Communications Commission (FCC) Staff

SUBJECT: Expression of Interest – Rural Trials
Docket No. 10-90



Executive Summary

Cloverland Electric and its subsidiary, Lighthouse.net, headquartered in Sault Ste. Marie, Michigan seeks \$94 million to serve 12,000 unserved high cost/extremely high cost customers, anchor institutions and tribal lands in five counties in the Upper Peninsula of Michigan covering 4,800 square miles. The project will leverage over \$5 million of our own investment and partner with two BTOP projects, MERIT's REACH MC-3 middle mile project and the Eastern Upper Peninsula Intermediate School District (EUPISD) and serve two Native American tribes to expand the last mile broadband reach to the area with a special focus on education.

Background

Founded in 1938, Cloverland Electric Cooperative is a *member-owned* electric utility serving the Eastern Upper Peninsula of Michigan. Prior to 1936, much of rural America was without electricity. When the lines were originally energized, Cloverland brought power to 1,090 co-op members. Today, the company serves approximately 42,000 accounts, including electric service to more islands than any other cooperative in the nation.

Lighthouse.Net is a wholly owned subsidiary of Cloverland Electric Cooperative and was purchased in 1997 to provide dial up Internet to the unserved rural Cloverland members. Lighthouse has worked extensively for over 10 years testing different technologies to deliver faster rural internet. The cost, efficiency and versatility of fiber make it the best choice for future proof investment and cost effective builds. Lighthouse has been committed to improving rural internet access for Cloverland members using solid, reliable, and scalable technologies.

Previous government stimulus opportunities have put in place two key components to a successful large scale broadband network. There is an existing middle mile backbone from MERIT's REACH MC-3, project that brought a new fiber optic "expressway". Another stimulus project, a BTOP grant, funded the Eastern Upper Peninsula Intermediate School District (EUPISD) purchase of laptop computers for students to stay connected and learn at home. The missing component has been the connection to the rural homes, for students who reside there. No current provider can supply a reliable broadband connection ubiquitously to these rural students or to any of the rural homes for Cloverland members. This crucial missing piece limits the potential of the previous grant awards that cannot be fully utilized due to the lack of interconnection.

Lighthouse.Net and Cloverland Electric Cooperative plan to work closely utilizing Pulse Broadband as an experienced designer and builder of large scale GPON networks. As a group we can jointly accomplish the build out and quickly be ready for operation of a fiber network to provide connectivity to these unserved and underserved rural areas.

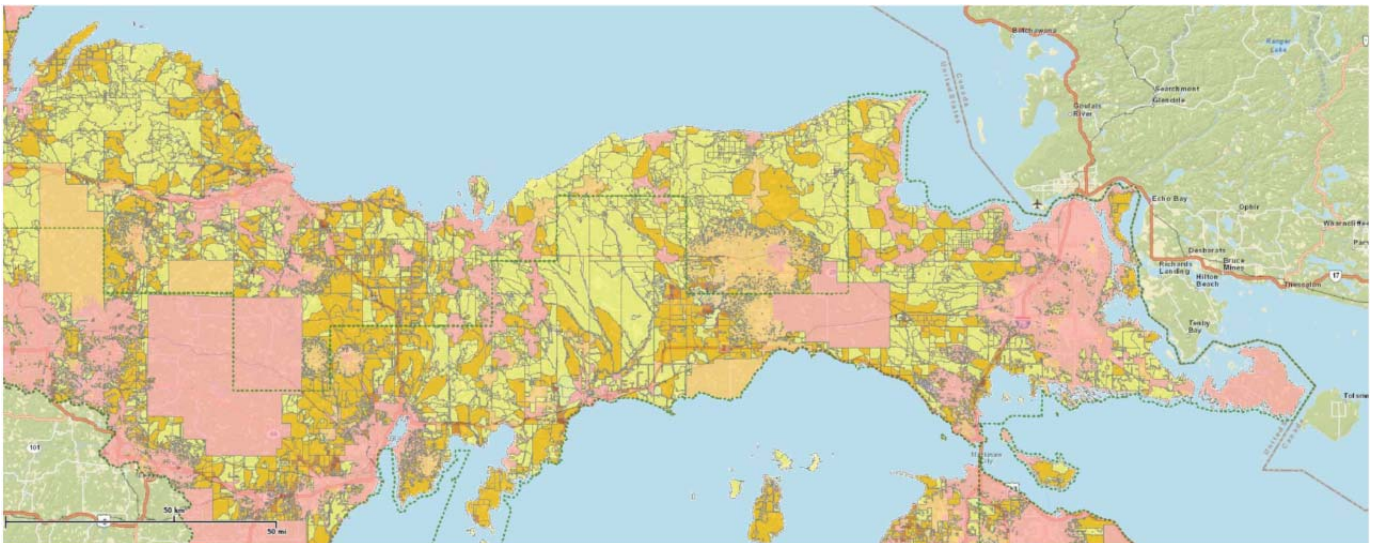
Cloverland has an infrastructure in place with wiring to every rural home providing electricity. Cloverlands' experience in working with large scale projects, contractors and RUS will provide the fiscal responsibility and oversight for the contracted fiber construction.

Lighthouse has the proven knowledge and expertise to operate, maintain and support the network and deliver internet services as well as offer triple play services across the network.

Local supporters and additional partners include; MERIT, EUPISD, County Government and local Governments.

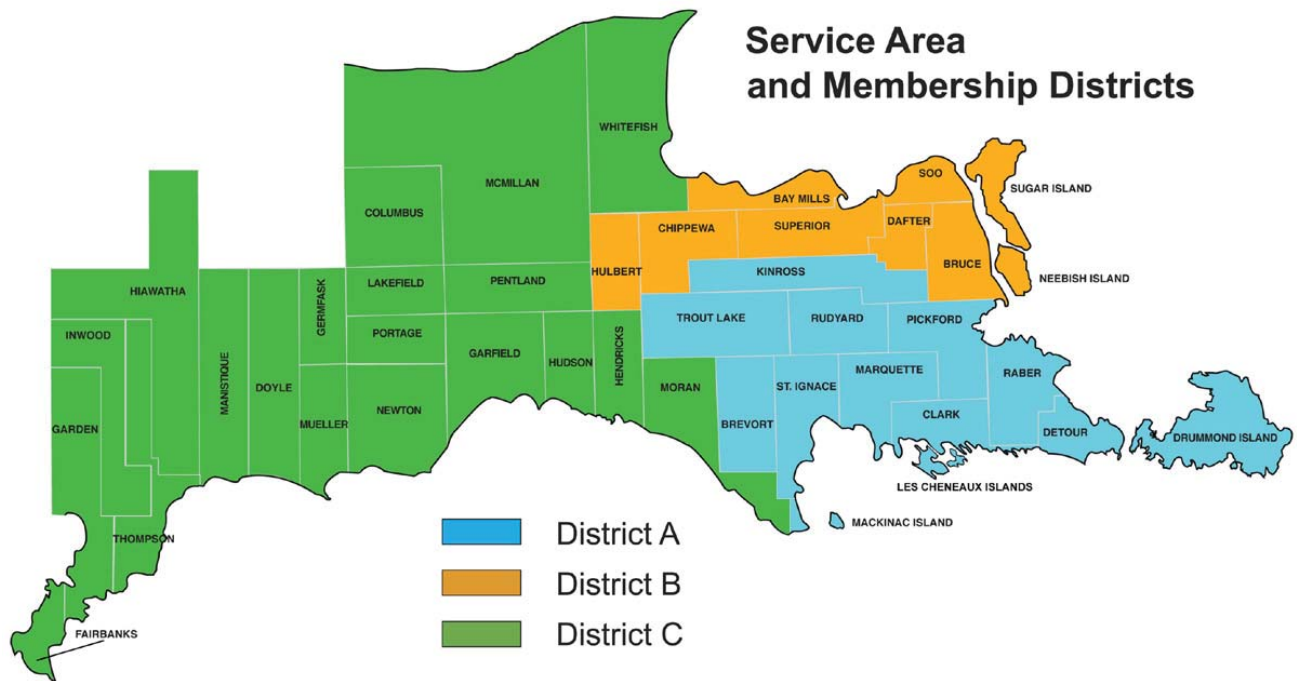
Project Scope & Geographic Territory

Cloverland Electric Cooperative's service areas include all of Chippewa, Luce, Mackinac Counties and portions of rural Schoolcraft and Delta Counties in the Eastern Upper Peninsula of Michigan (see attached coverage map).



Unserved and Underserved Areas of Michigan's Upper Peninsula

Cloverland Electric Cooperative and Lighthouse.Net intends to provide service to an unserved and underserved area encompassing portions of five counties in the Eastern Upper Peninsula of Michigan totaling 1,668.09 square miles. We will work closely with Pulse Broadband and Connect America-Michigan to determine the eligibility of the 17 census tracts in our proposed service footprint.



CLOVERLAND ELECTRIC COOPERATIVE COVERAGE MAP

Breakdown by County for Cloverland Service Areas

CHIPPEWA COUNTY, MICHIGAN – 1,558 total square miles

Population: 38,917 (51% urban, 49% rural)

7 Eligible Census Tracts Proposed Service Area (rural)

MACKINAC COUNTY, MICHIGAN – 1,022 total square miles

Population: 11,137 (23% urban, 77% rural)

4 Eligible Census Tracts Proposed Service Area (rural)

LUCE COUNTY, MICHIGAN – 899 square miles

Population: 6,522 (49% urban, 51% rural)

2 Eligible Census Tracts Proposed Service Area (rural)

SCHOOLCRAFT COUNTY, MICHIGAN – 1,171 square miles

Population: 8,343 (41% urban, 59% rural)

3 Eligible Census Tracts Proposed Service Area (rural)

DELTA COUNTY, MICHIGAN – 1,171 square miles

Population: 36,884 (56% urban, 44% rural)

1 Eligible Census Tracts Proposed Service Area (rural)

Experiment Eligible Locations for Cloverland Service Area in five counties:

Total High Cost Locations:	10,130
Total Extremely High Cost locations:	<u>1,053</u>
Potential Total Experimental Locations:	11,183

Other Planned Connections:

The Eastern Upper Peninsula Intermediate School District has requested that we connect six rural school locations that have bandwidth challenges and are not meeting their needs for virtual classrooms. Four of these locations are within reach of our current planned routes. Two are located on islands with challenging connectivity. A remote tribal Charter School has also contacted us through the EUPISD as a potential need location. The project as planned currently would allow for connectivity to all six locations using gigabit fiber optic connections.

Additional Rural Experimental Locations:

6 School Districts

1 Tribal Charter School

Proposed technology and scalability

Recognizing the significant potential of this asset, Cloverland and Lighthouse would contract with Pulse Broadband (www.pulsebroadbandinc.com) for the design of a rural delivery fiber-to-the-premises (FTTx) product. Utilizing a combination of MERIT and Lighthouse fiber infrastructure for middle mile backbone, Pulse Broadband can design a redundant 2,800 mile bi-directional FTTx open network using gigabit passive optical network (GPON) electronics. The system will be designed and engineered for true broadband delivery of services at any location. The system will be 100% scalable and engineered for the potential of a gigabit of service to every home or business in our proposed footprint. Initially, the following plans will be offered:

Residential High-Speed Internet Packages

- Tier 1:** Up to 25 mbps downstream and 12 mbps upstream
\$39.95/month
- Tier 2:** Up to 50 mbps downstream and 25 mbps upstream
\$59.95/month
- Tier 3:** Up to 100 mbps downstream and 50 mbps upstream
\$119.95/month

Business High-Speed Internet Packages

- BASIC:** Up to 50 mbps downstream and 50 mbps upstream
\$89.95/month
- PREMIUM:** Up to 100 mbps downstream and 100 mbps upstream
\$169.95/month

Bundled TV, Internet packages will be offered with options for VoIP phone service and VOD
Internet, TV and Phone bundles will be available for as low as \$99 a month.

Educational Special High-Speed Internet Packages

- BTOP Support:** Free Wi-Fi modems for all BTOP Grant Laptop Students Homes
Up to 25 mbps downstream and 12 mbps upstream
\$29.95/month while a student is in elementary or high school

Participation and Support for Project

The Eastern Upper Peninsula has historically been an economically depressed area. Double digit unemployment is normal for the area, which usually leads the State of Michigan. Employment opportunities are limited and many jobs are only seasonal. The economic benefits and job opportunities that follow broadband and gigabit fiber build outs is well documented. By working with the local Economic Development Corporations and State of Michigan, this experimental Project has the potential to track and document the impact on the rural areas of a state that has been struggling to rebuild.

The Regional Planning and Development Agencies of Chippewa, Luce and Mackinac Counties have been working with Connected Nation and Connect Michigan and have documented the shortfall of broadband in the rural areas. They have endorsed the Cloverland and Lighthouses initiative.

MERIT has enthusiastically endorsed the opportunity to expand their REACH MC-3 Middle Mile project and connect homes across the EUP. The letter from MERIT is attached.

The Eastern Upper Peninsula Intermediate School District, a second round BTOP awardee, is excited about the possibility of finally connecting the unconnected students in the rural area. They have also expressed interest in having their schools with bandwidth challenges included in the Experimental Project.

There are two Native American Tribes within the Cloverland Service Area. The Sault Tribe of Chippewa Indians and Bay Mills Indian Community are both represented within the proposed coverage area. Both have expressed interest in participating.

Existing Providers

In this planned rural deployment, there are five incumbents telephone providers AT&T, CenturyLink, UP Telephone, Hiawatha Telephone, and Chippewa County Telephone. Some have DSL service with very limited coverage and offerings. There is also limited coverage by fixed wireless, cellular and Wi-Fi. The wireless coverage is very spotty and reliability has been a constant problem. Some of the incumbents have RUS funded DSL and we are not planning to build within those funded territories. Prior to final design and deployment we will do a due diligence check to be sure we do not build over existing RUS or grant recipients. There are no plans to build within the city limits of any currently served city or town.

Project Timeline

Since the core facilities are in place and routes are already established the project would move quickly once it is funded. Lighthouse.Net will secure a temporary CLEC license from the Michigan Public Service Commission and will pursue an ETC license and other certifications once our permanent CLEC is granted.

Full deployment may take up to three years, or more, depending upon the weather conditions and accessibility of the remote locations included within this project.

Total Project Investment

Lighthouse.Net has just completed three fiber build out projects that included both, underground and aerial, so we have up to date cost estimates for the build per mile in our area. This new fiber infrastructure, a new rural Network Operation Center (NOC) that will be completed in June and our main Network Operations Center as well as a redundant fiber connected video head end are all prebuild assets for the project. Cloverland will be providing fiber node points at substation locations, engineering and the shovel ready assets of pole contacts and routes for build outs. The project is rural with approximately 2300 miles of overhead plant and 500 miles of underground. Two island locations will be connected via submarine fiber connections and two via licensed gigabit microwave. There are a number of challenges when working with islands, national forests and waterways. Cloverland and Lighthouse have worked extensively and established partnerships with all the area agencies. This project will ultimately pass a majority of the rural Cloverland members who will benefit from the ability to bridge the digital gap that exists in the rural locations. We are confident in the financial model to run the networks if the funding is available for the initial build. The FCC Experimental Census Tract list shows available subsidy money per year. Cloverland and Lighthouse would rather have a one-time funding for the initial build and then run the operation without ongoing subsidies from government agencies. We currently operate solely on revenues generated and would continue to do so.

Total Estimated Project Cost: \$99 million

Available Subsidy for Census Blocks:

Experimental Estimated Support: \$4.6 million annually (from FCC data)

Experimental Est. Support 10 Years: \$46 million Total

Funding Sources:

Lighthouse/Cloverland Investment: \$5 million

Requested Experimental Funding: \$94 million (1 time up front, no annual subsidies)

Total Customers Served: 12,000 High Cost/Extremely High Cost (estimated)

Educational Anchors: 6 Rural School Districts

1 Tribal Charter School

Square Miles: 4,800 square miles

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